Large Language Models for Generative Recommendation: A Survey and Visionary Discussions

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Abstract

Large language models (LLM) not only have revolutionized the field of natural language processing (NLP) but also have the potential to reshape many other fields, e.g., recommender systems (RS). However, most of the related work treats an LLM as a component of the conventional recommendation pipeline (e.g., as a feature extractor), which may not be able to fully leverage the generative power of LLM. Instead of separating the recommendation process into multiple stages, such as score computation and re-ranking, this process can be simplified to one stage with LLM: directly generating recommendations from the complete pool of items. This survey reviews the progress, methods, and future directions of LLM-based generative recommendation by examining three questions: 1) What generative recommendation is, 2) Why RS should advance to generative recommendation, and 3) How to implement LLM-based generative recommendation for various RS tasks. We hope that this survey can provide the context and guidance needed to explore this interesting and emerging topic.